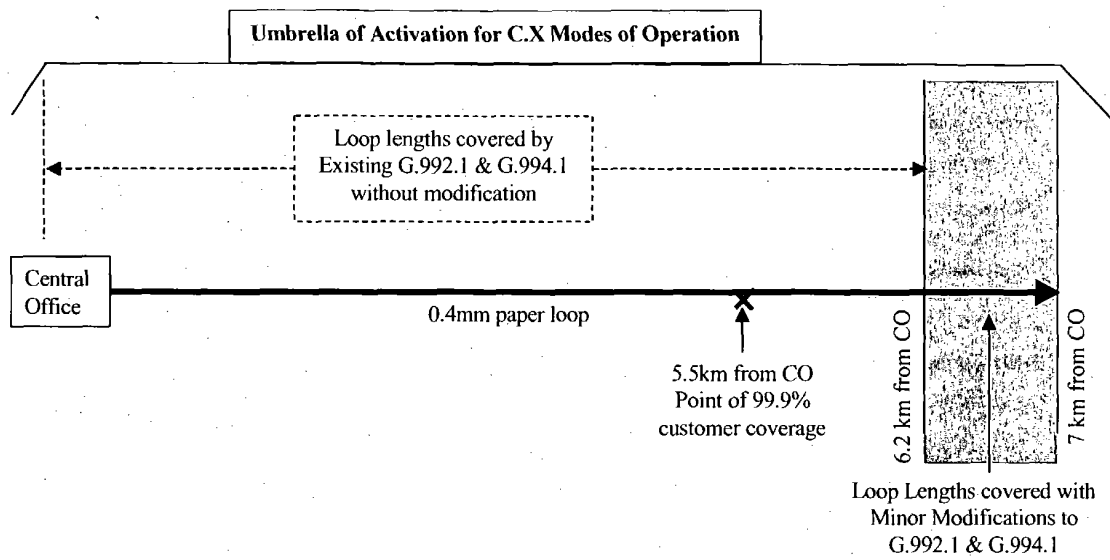
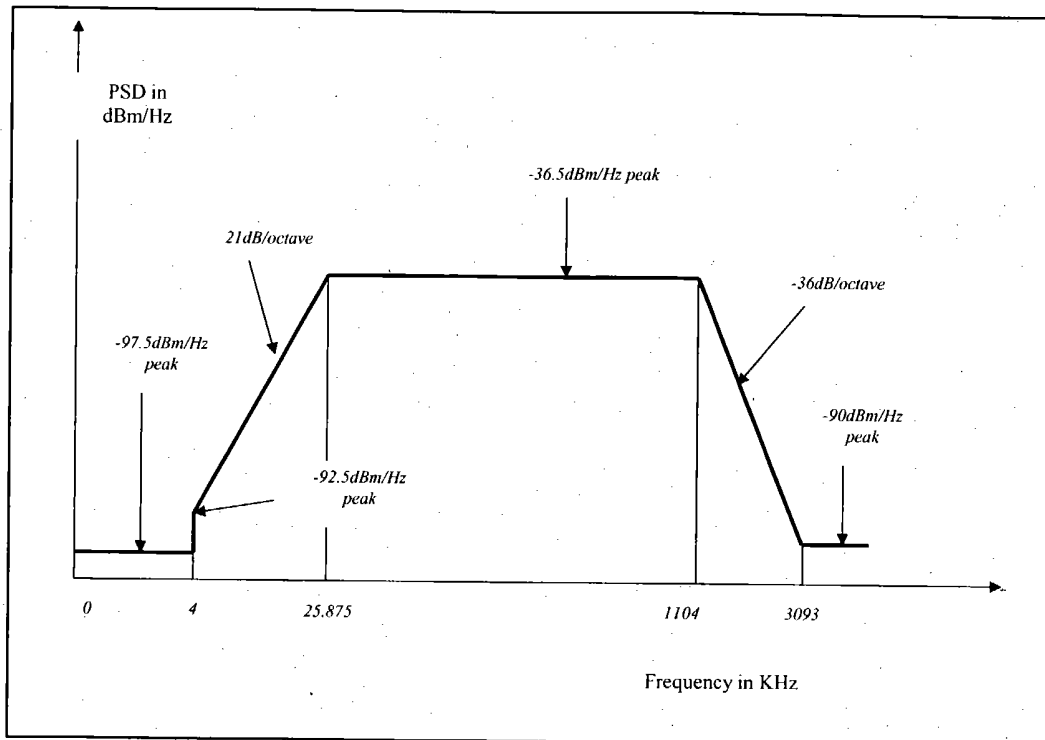


**Fig. 1**  
**(Prior Art)**

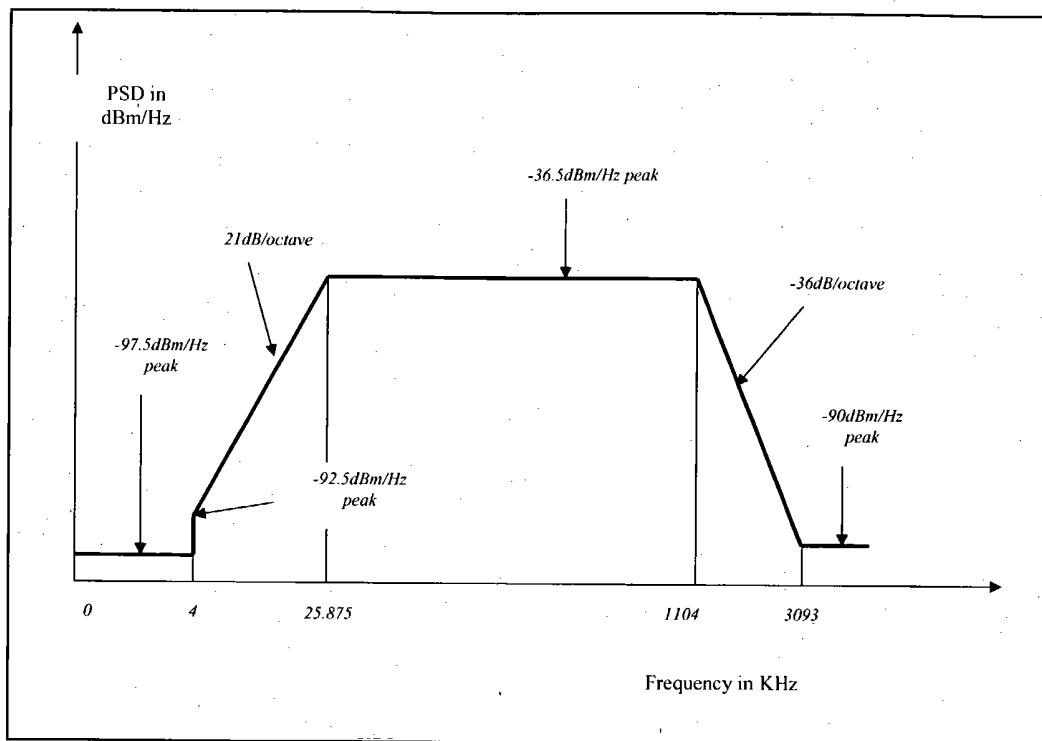


**Fig. 2**



**DBMOL Downstream Spectral Mask**

**Fig. 3**  
**(Prior Art)**



## AOL Downstream Spectral Mask

**Fig. 4**  
**(Prior Art)**

TABLE 11: Spectral compatibility of A.X<sub>24</sub> with first group systems in G.992.1 mode

loop (km)	TCM-ISDN				A 992.1				C DBM 992.1				CFBM 992.1			
	Ref table	U/S	Ref table	D/S	U/S	Ref table	D/S	U/S	Ref table	U/S	Ref table	D/S	U/S	Ref table	D/S	U/S
0.5	144	144	832	832	5632	6752	832	832	832	6048	6752	288	288	2496	2496	2496
0.75	144	144	832	832	4032	6560	832	832	832	4960	6560	288	288	2432	2432	2432
1	144	144	800	832	2400	6144	800	832	832	3808	6144	288	288	2272	2272	2272
1.25	144	144	768	832	1504	5952	768	832	832	3168	5952	288	288	2208	2208	2208
1.5	144	144	704	800	960	5856	736	800	800	2784	5856	288	288	2144	2144	2144
1.75	144	144	640	800	608	5536	704	800	800	2432	5536	288	288	2048	2048	2048
2	144	144	576	768	384	5312	672	768	768	2208	5312	288	288	1952	1952	1952
2.25	144	144	512	736	192	4896	640	736	736	1984	4896	288	288	1792	1792	1792
2.5	144	144	448	704	96	4192	576	704	704	1664	4192	288	288	1536	1536	1536
2.75	144	144	352	672	32	3424	544	672	672	1344	3424	256	256	1248	1248	1248
3	0	0	288	608	0	2784	480	608	608	1120	2784	256	256	1024	1024	1024
3.25	0	0	256	576	0	2272	448	576	576	928	2272	256	256	832	832	832
3.5	0	0	192	512	0	1792	416	512	512	800	1792	224	224	640	640	640
3.75	0	0	160	448	0	1408	416	448	448	672	1408	224	224	512	512	512
4	0	0	128	416	0	1024	384	416	416	512	1024	224	224	384	384	384
4.25	0	0	96	384	0	736	352	384	384	416	736	192	192	256	256	256
4.5	0	0	64	352	0	480	352	352	352	320	480	192	192	160	160	160
4.75	0	0	64	320	0	288	320	320	320	288	288	192	192	96	96	96
5	0	0	32	288	0	128	320	288	288	128	128	192	192	32	32	32

Fig. 5

TABLE 12: Spectral compatibility of A.X<sub>24</sub> with first group systems in G992.2 mode

A 992.2				G DBM 992.2				G FBM 992.2			
U/S		D/S		U/S		D/S		U/S		D/S	
Ref table		Ref table		Ref table		Ref table		Ref table		Ref table	
832	832	2848	3008	832	832	2912	3008	288	288	1088	1088
832	832	2464	3008	832	832	2656	3008	288	288	1088	1088
800	832	2016	3008	800	832	2368	3008	288	288	1088	1088
768	832	1504	2944	768	832	2048	2944	288	288	1088	1088
704	800	960	2912	736	800	1696	2912	288	288	1056	1056
640	800	608	2848	704	800	1504	2848	288	288	1056	1056
576	768	288	2816	672	768	1280	2816	288	288	1024	1024
512	736	128	2752	640	736	1184	2752	256	256	1024	1024
448	704	64	2656	576	704	1120	2656	256	256	960	960
352	672	32	2560	544	672	1024	2560	224	224	928	928
288	608	0	2432	480	608	992	2432	224	224	896	896
256	576	0	2240	448	576	928	2240	192	192	832	832
192	512	0	1984	416	512	832	1984	192	192	736	736
160	448	0	1632	416	448	736	1632	160	160	576	576
128	416	0	1248	384	416	608	1248	160	160	448	448
96	384	0	896	352	384	480	896	128	128	320	320
64	352	0	608	352	352	384	608	128	128	224	224
64	320	0	352	352	352	320	352	96	96	128	128
32	288	0	192	320	288	192	192	96	96	64	64

loop (km)

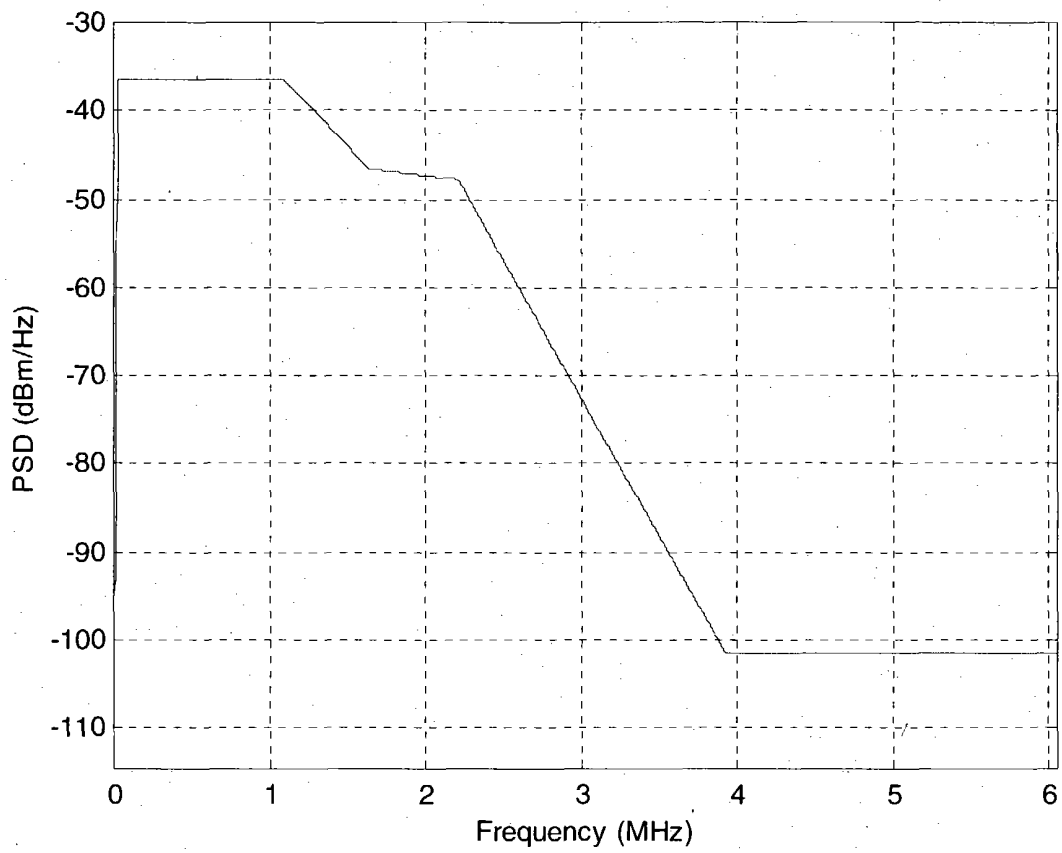
0.5  
0.75  
1  
1.25  
1.5  
1.75  
2  
2.25  
2.5  
2.75  
3  
3.25  
3.5  
3.75  
4  
4.25  
4.5  
4.75  
5

Fig. 6

TABLE 12: Spectral compatibility of A.X<sub>1</sub> with first group systems in G.992.1 mode

loop (km)	TCM-ISDN				A 992.1				CDBM 992.1				C FBM/992.1			
	Ref table		U/S	D/S	Ref table		U/S	D/S	Ref table		U/S	D/S	Ref table		U/S	D/S
0.5	144	144	832	832	5632	7104	832	832	6048	7104	288	288	2496		288	2624
0.75	144	144	832	832	4032	7104	832	832	4960	7104	288	288	2432		288	2624
1	144	144	800	832	2400	7104	800	832	3808	7104	288	288	2272		288	2624
1.25	144	144	768	832	1504	7104	768	832	3168	7104	288	288	2208		288	2624
1.5	144	144	704	832	960	7104	736	832	2784	7104	288	288	2144		288	2624
1.75	144	144	640	832	608	7104	704	832	2432	7104	288	288	2048		288	2624
2	144	144	576	832	384	6752	672	832	2208	6752	288	288	1952		288	2496
2.25	144	144	512	800	192	6112	640	800	1984	6112	288	288	1792		288	2240
2.5	144	144	448	800	96	5184	576	800	1664	5184	288	288	1536		288	1920
2.75	144	144	352	768	32	4224	544	768	1344	4224	256	288	1248		288	1536
3	0	144	288	736	0	3456	480	736	1120	3456	256	256	1024		256	1280
3.25	0	144	256	704	0	2816	448	704	928	2816	256	256	832		256	1024
3.5	0	0	192	672	0	2240	416	672	800	2240	224	224	640		224	832
3.75	0	0	160	608	0	1760	416	608	672	1760	224	224	512		224	640
4	0	0	128	544	0	1344	384	544	512	1344	224	224	384		192	480
4.25	0	0	96	512	0	928	352	512	416	928	192	192	256		192	352
4.5	0	0	64	448	0	640	352	448	320	640	192	192	160		160	224
4.75	0	0	64	416	0	384	352	416	256	384	192	192	96		96	128
5	0	0	32	384	0	192	320	384	128	192	192	128	32		128	64

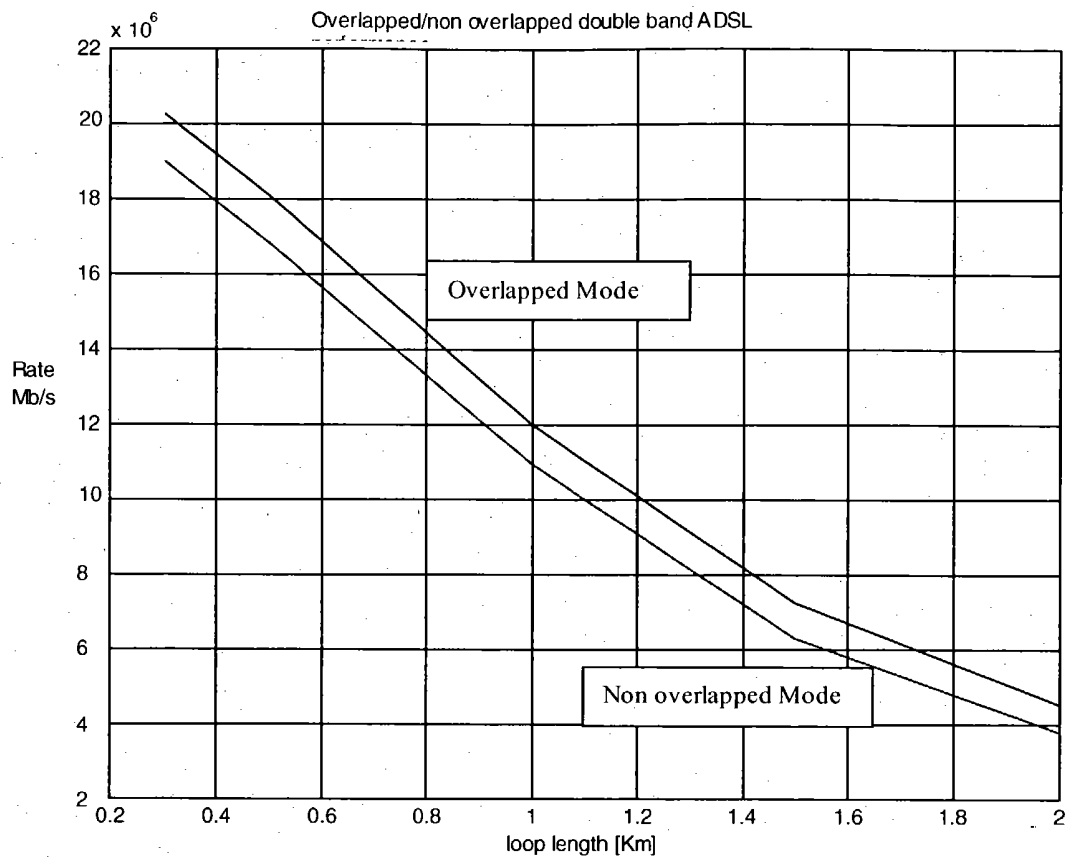
Fig. 7



**ADSL+ PSD for CO Deployment (Overlapped Mode)**

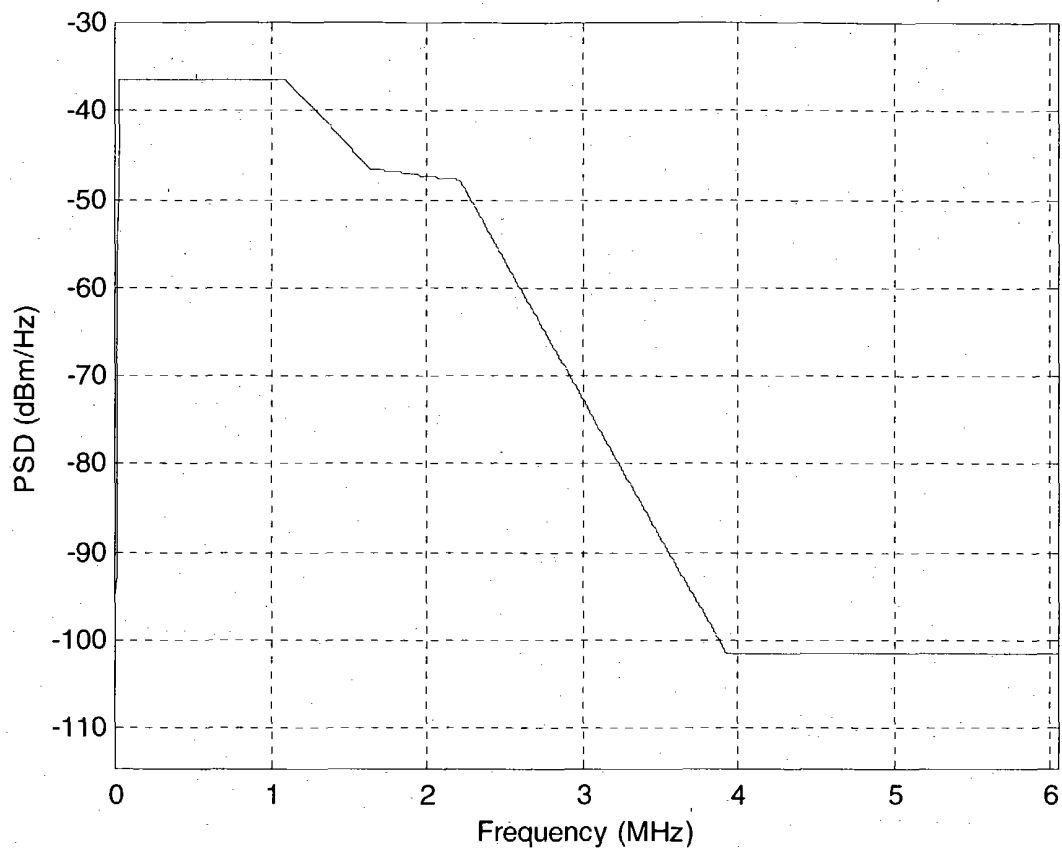
**Fig. 8**





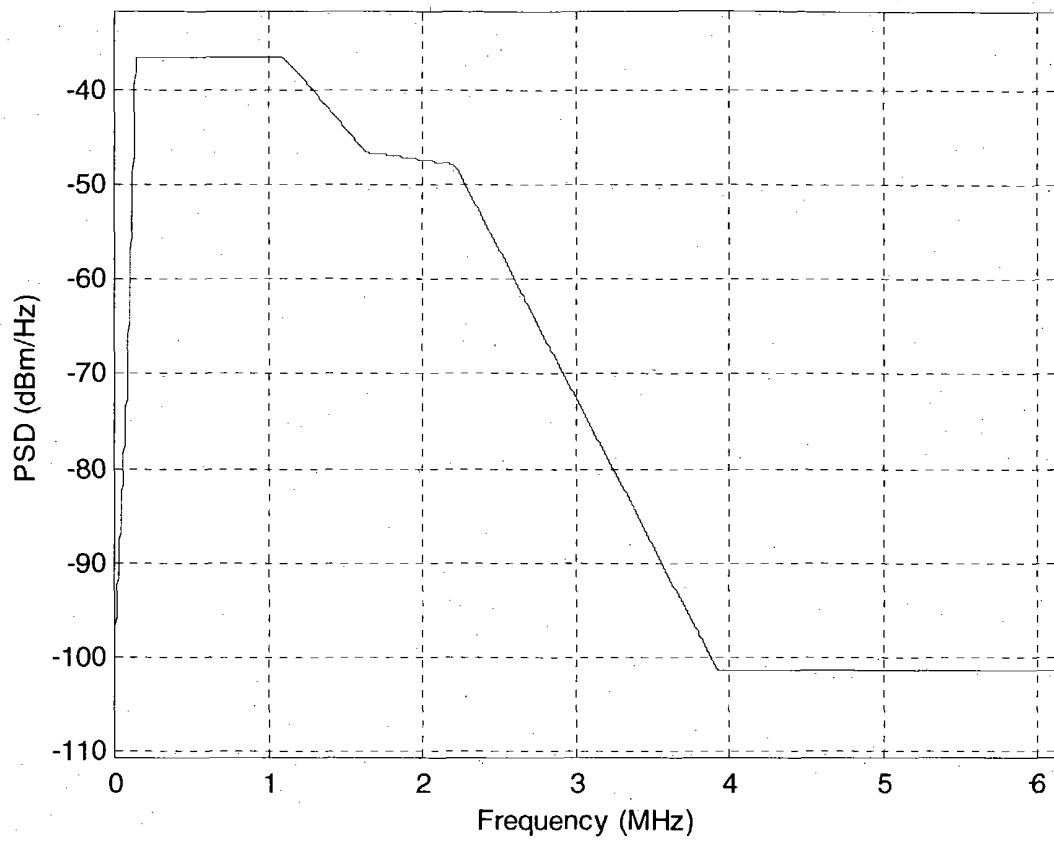
Performance for overlapped/non overlapped 2.208 MHz ADSL extended spectrum system

**Fig. 9**



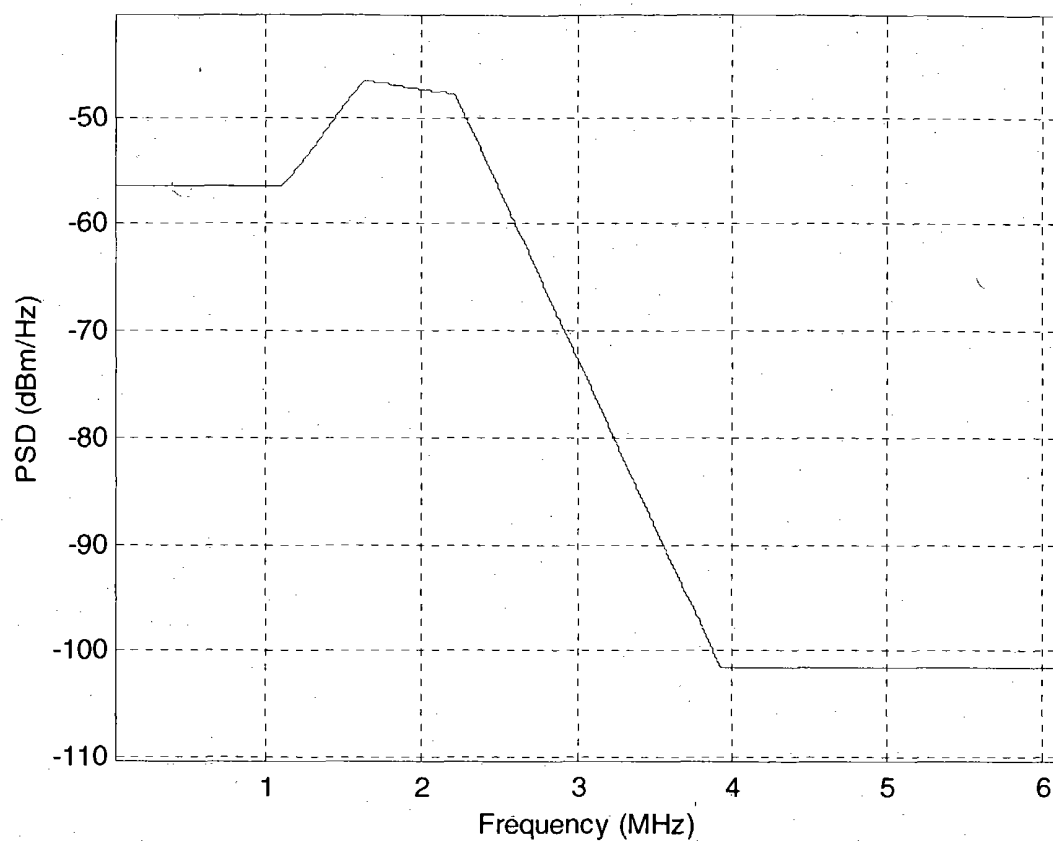
**ADSL+ PSD for CO Deployment**

**Fig. 10**



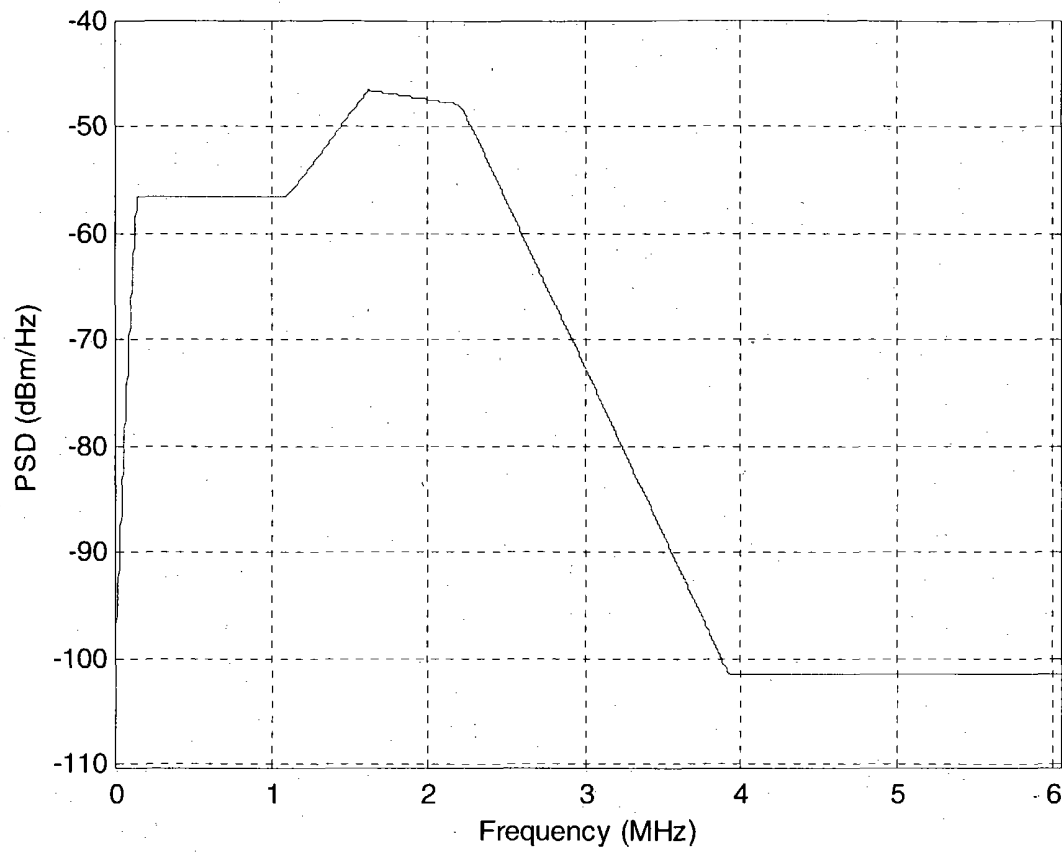
**ADSL+ Over POTS PSD for CO Deployment (Non-Overlapped Mode)**

**Fig. 11**



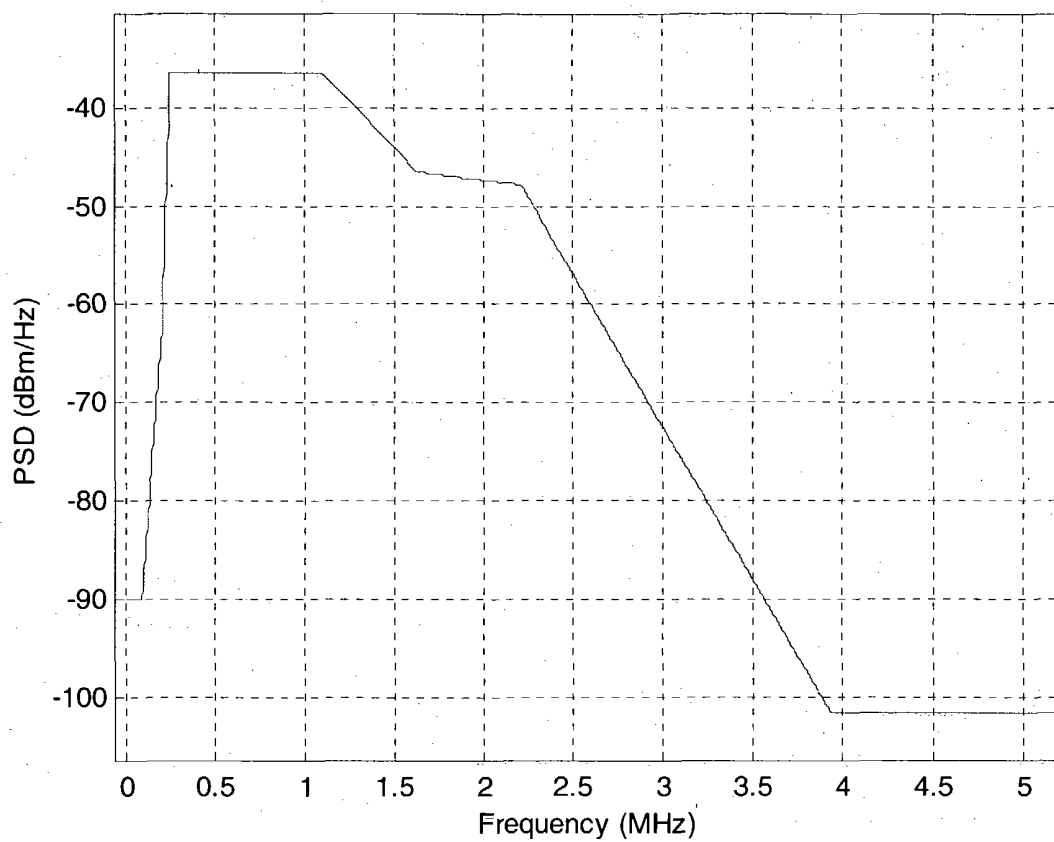
**ADSL+ Over POTS PSD for CO Deployment (Non-Overlapped Mode)**

**Fig. 12**



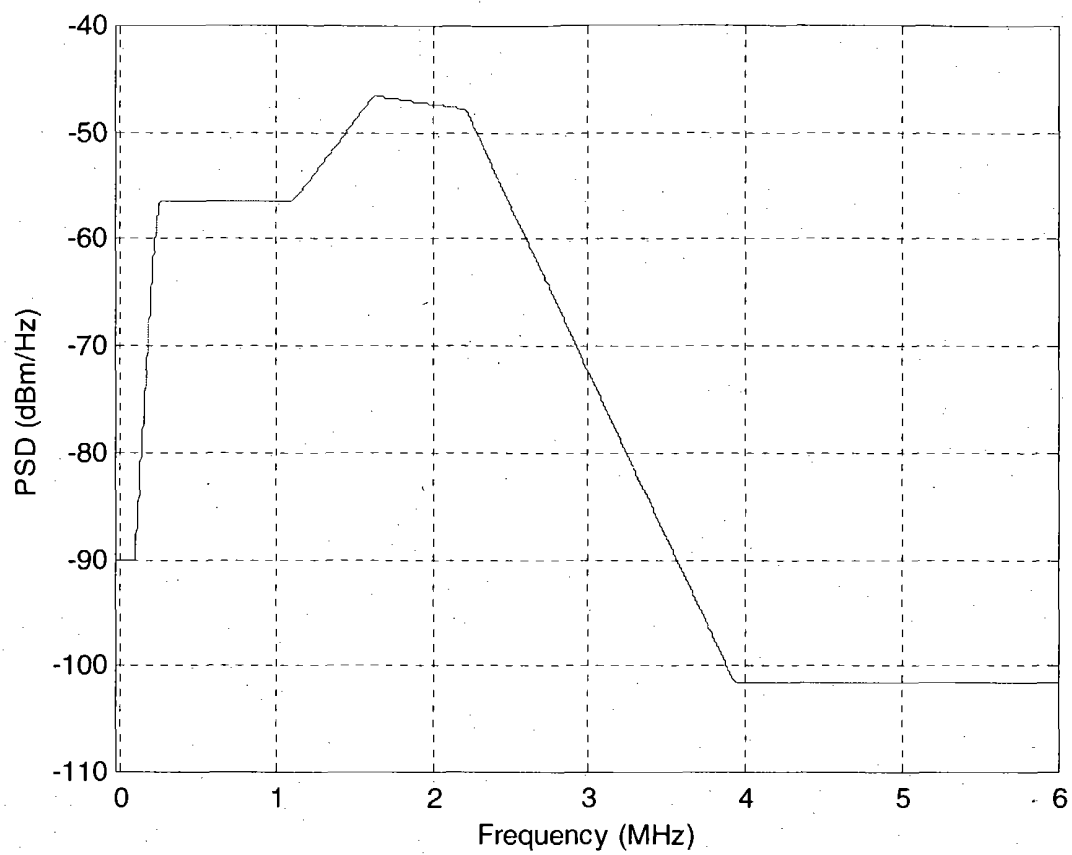
**ADSL+ over POTS PSD for Cabinet Deployment (Non-Overlapped Mode)**

**Fig. 13**



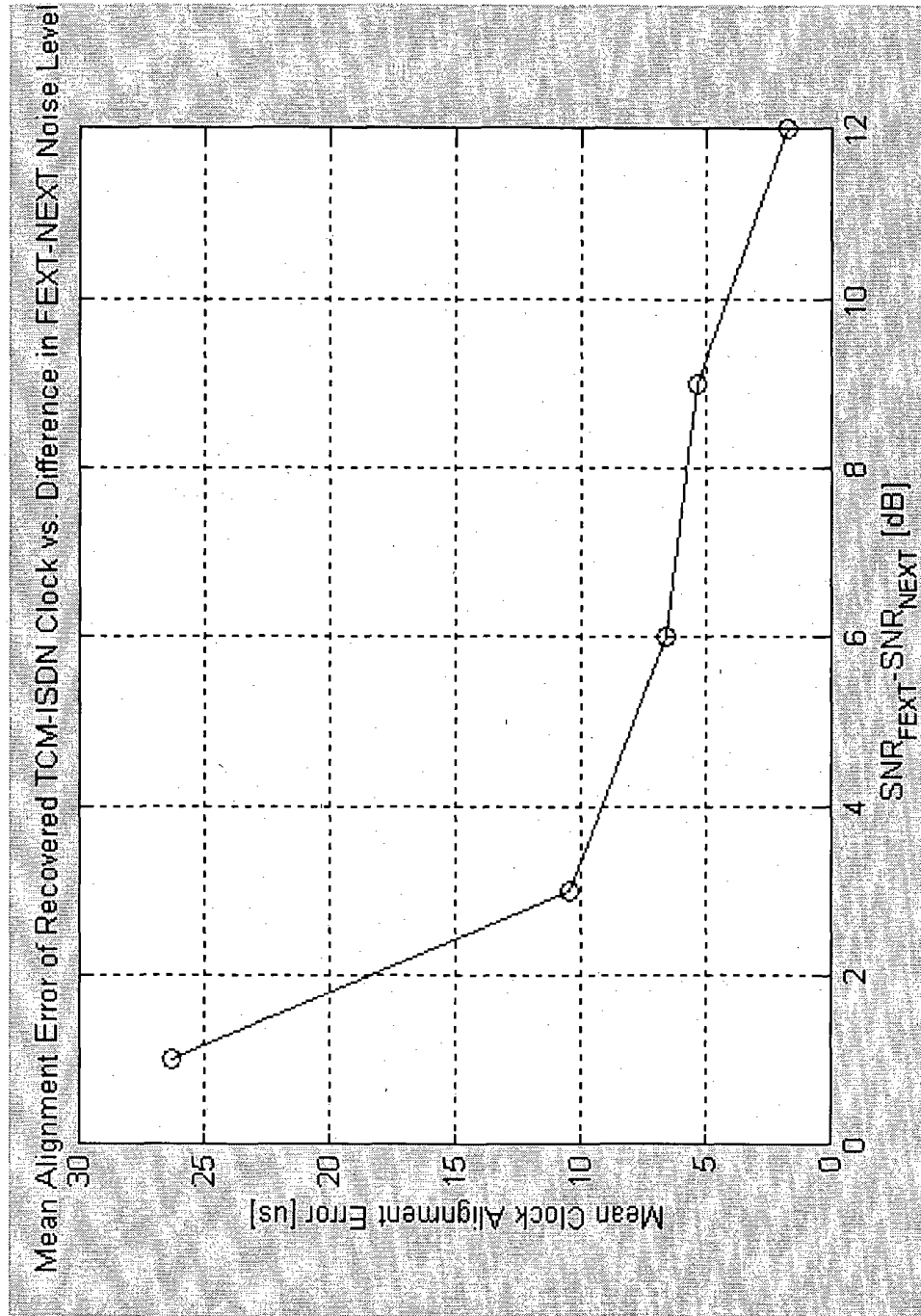
**ADSL+ over ISDN PSD for CO Deployment**

**Fig. 14**



**ADSL+ over ISDN PSD for Cabinet Deployment**

**Fig. 15**



**Fig. 16**



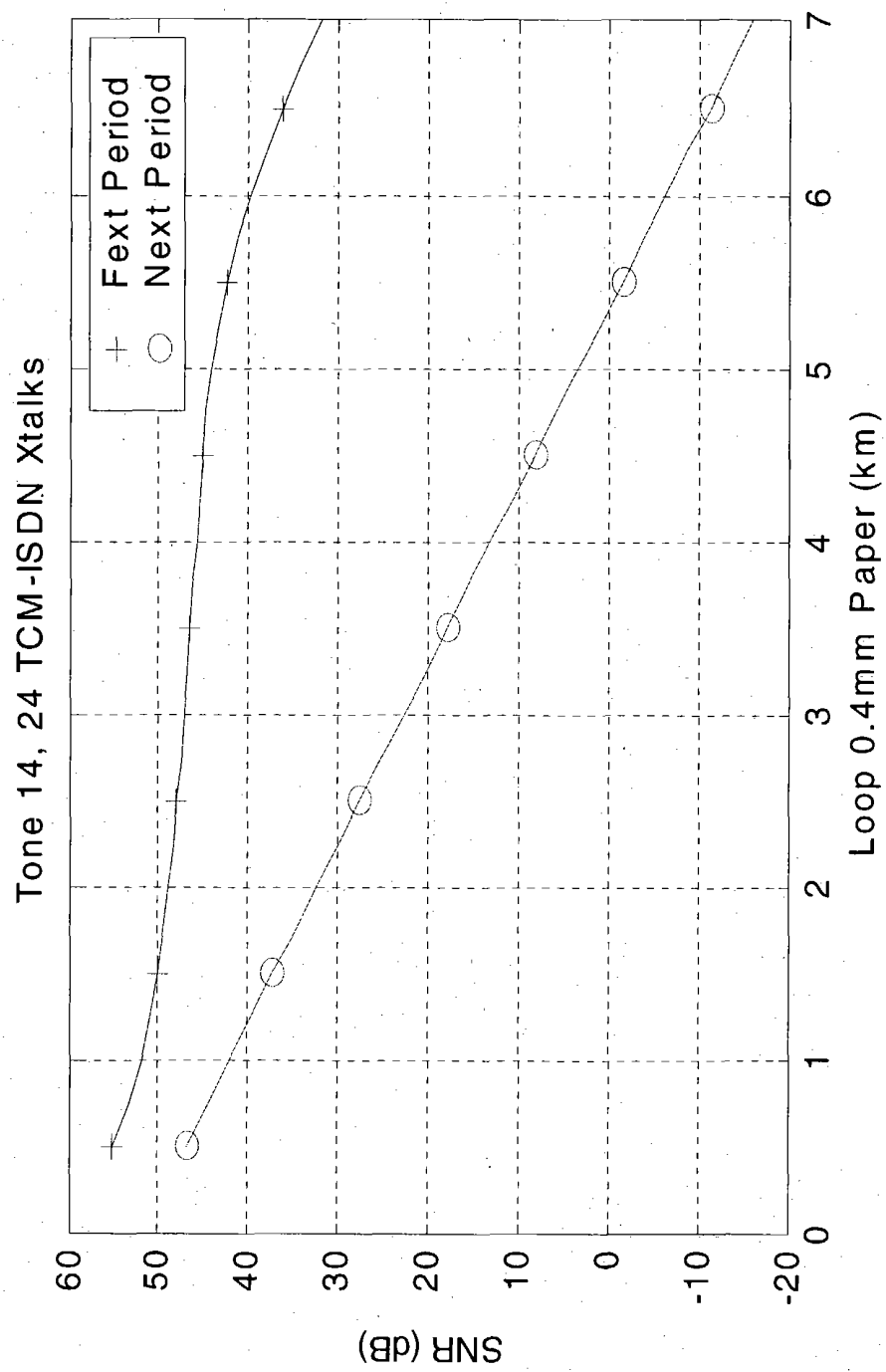
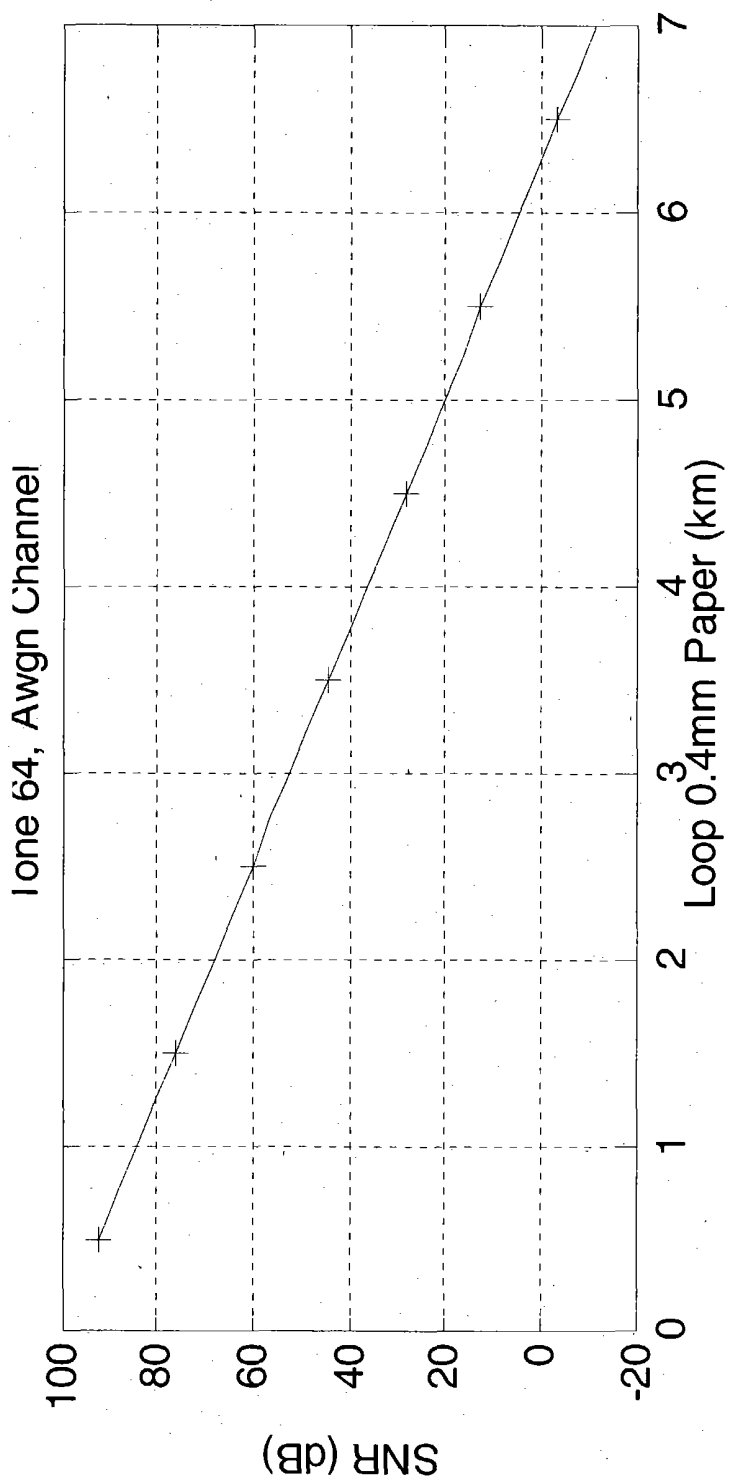
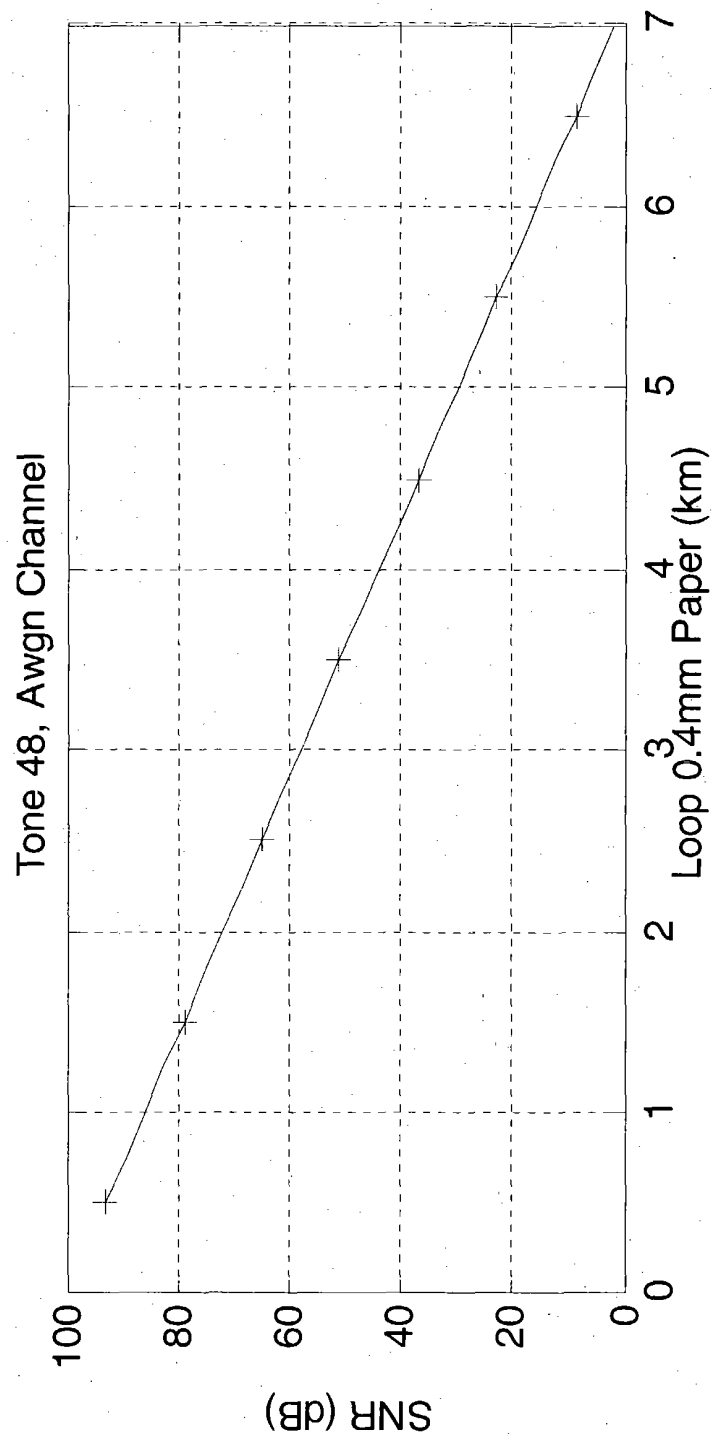


Fig. 17



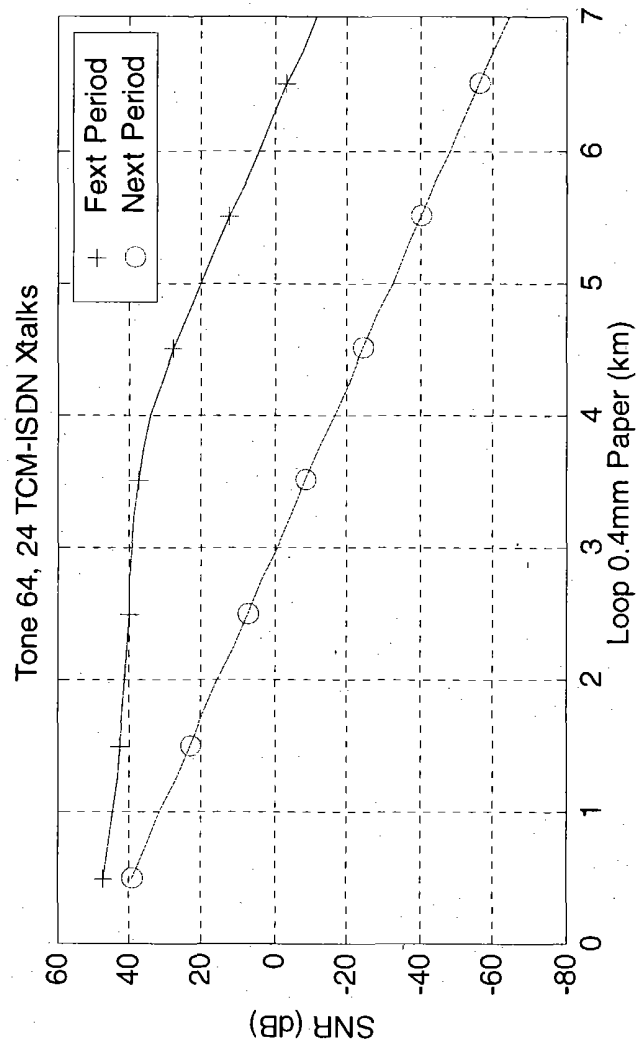
PILOT 64 SNR vs distance, -140dBm/Hz white noise

**Fig. 18**



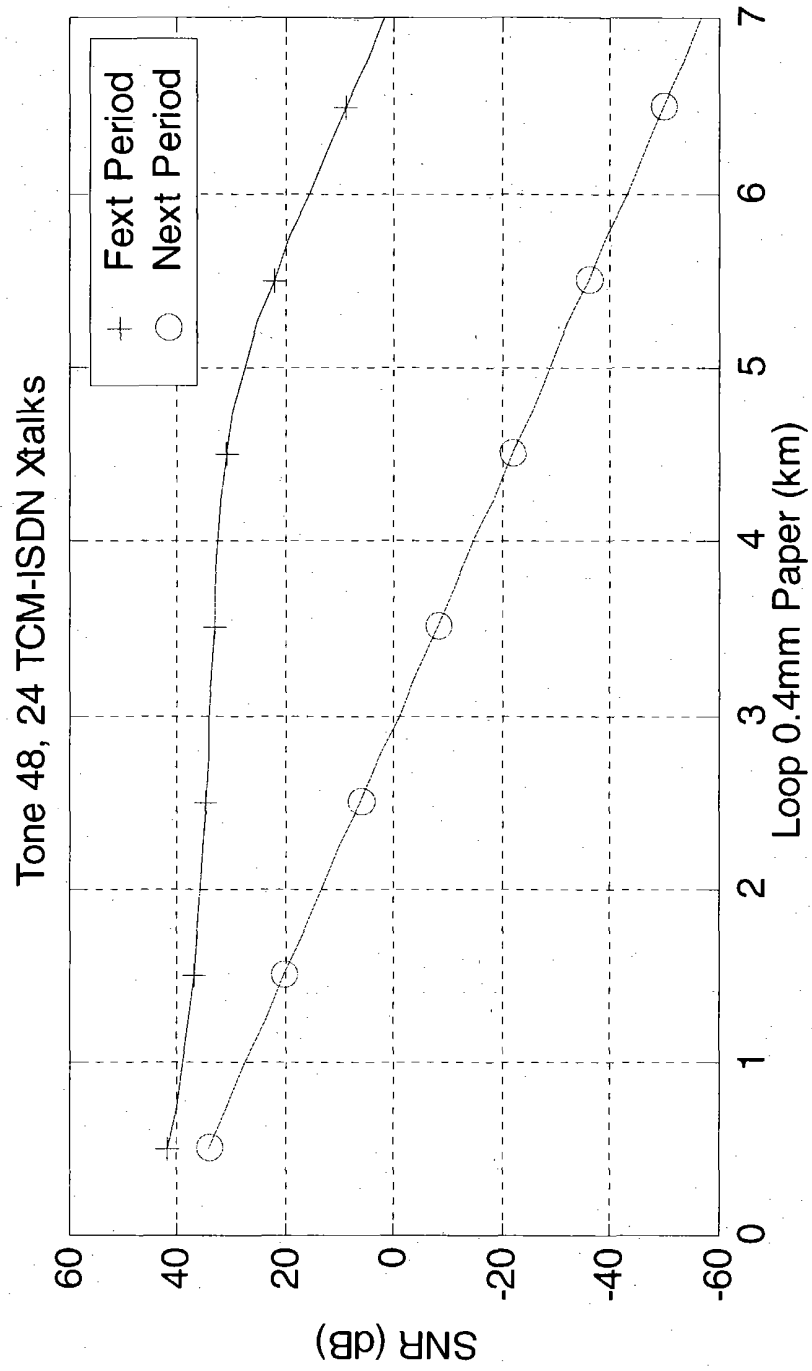
TTR 48 SNR vs distance, -140dBm/Hz white noise

**Fig. 19**



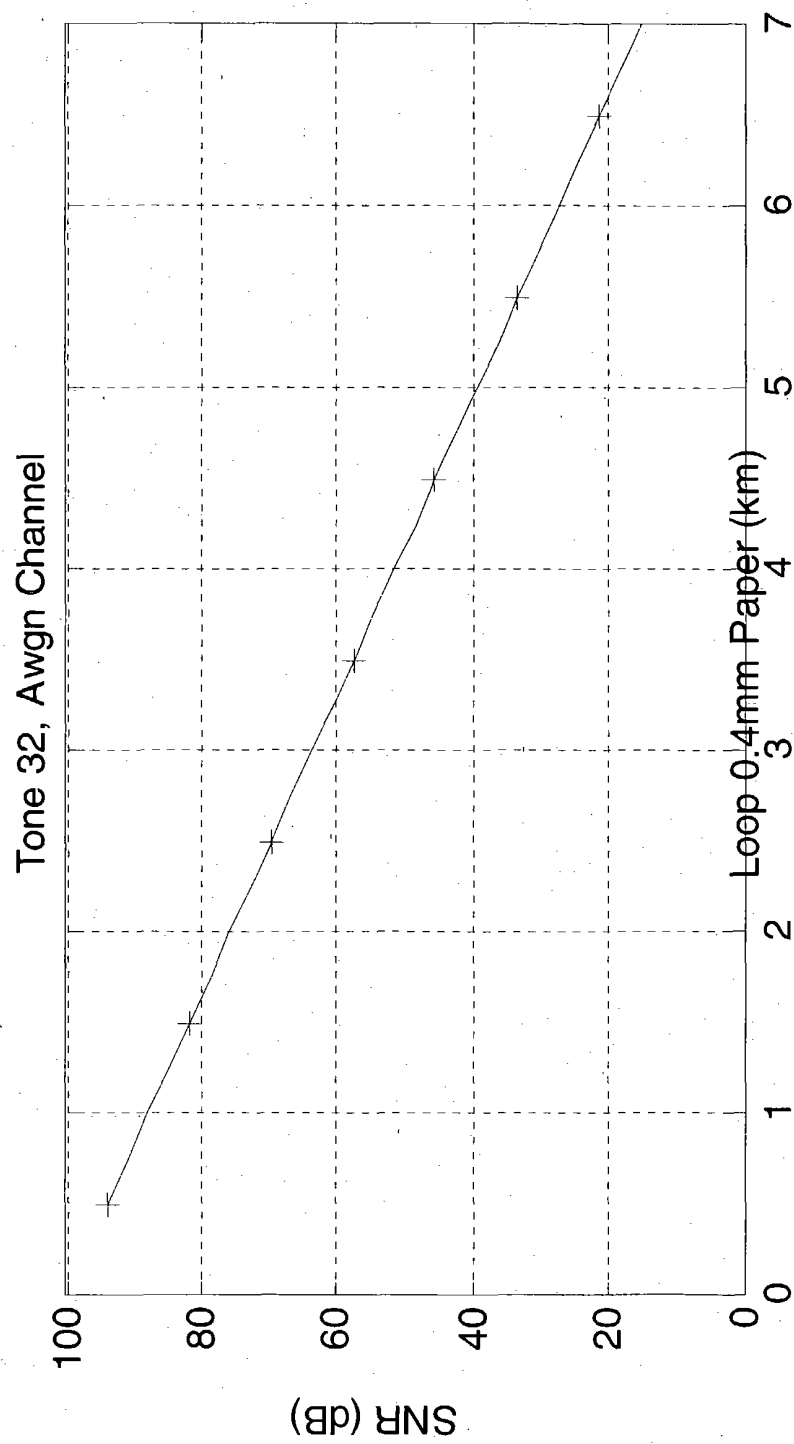
PILOT 64 SNR vs distance, 24 TCM-ISDN

Fig. 20



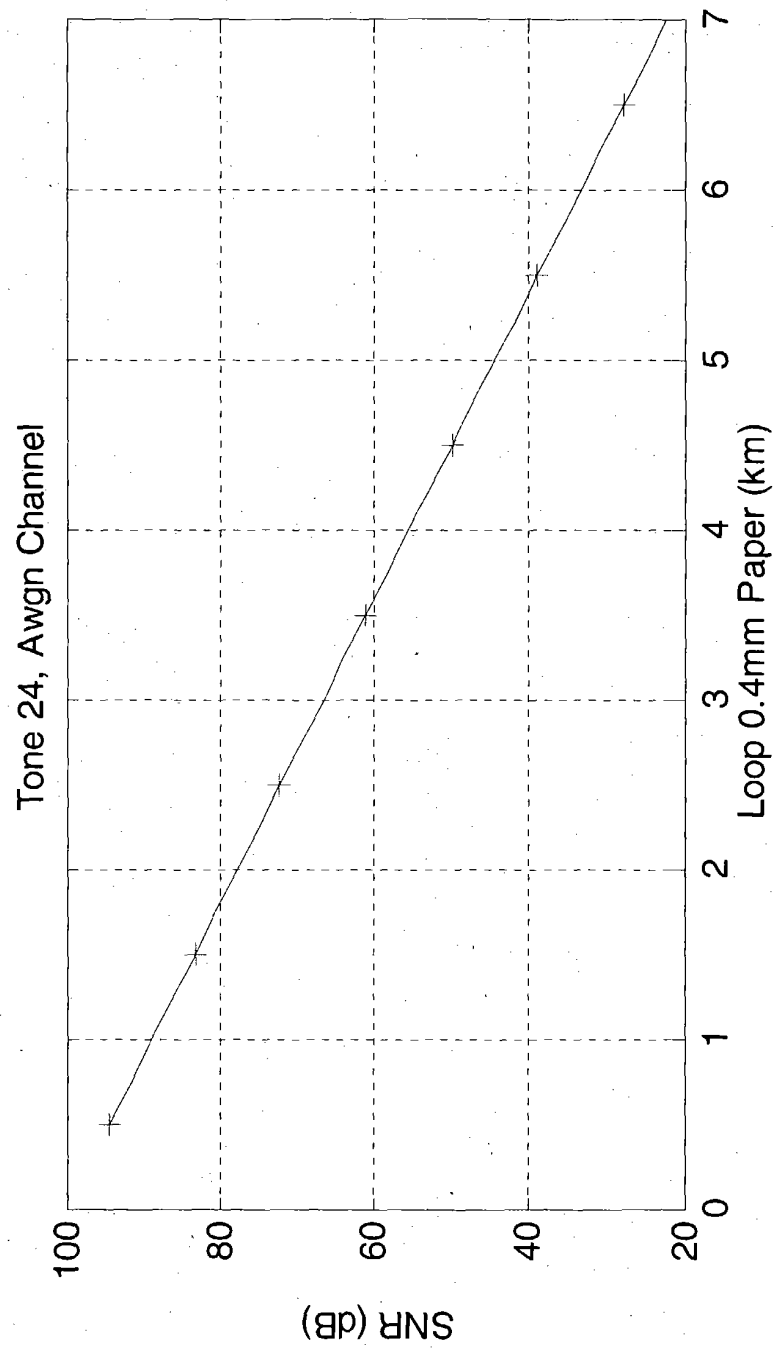
TTR 48 SNR vs distance, 24 TCM-ISDN

Fig. 21



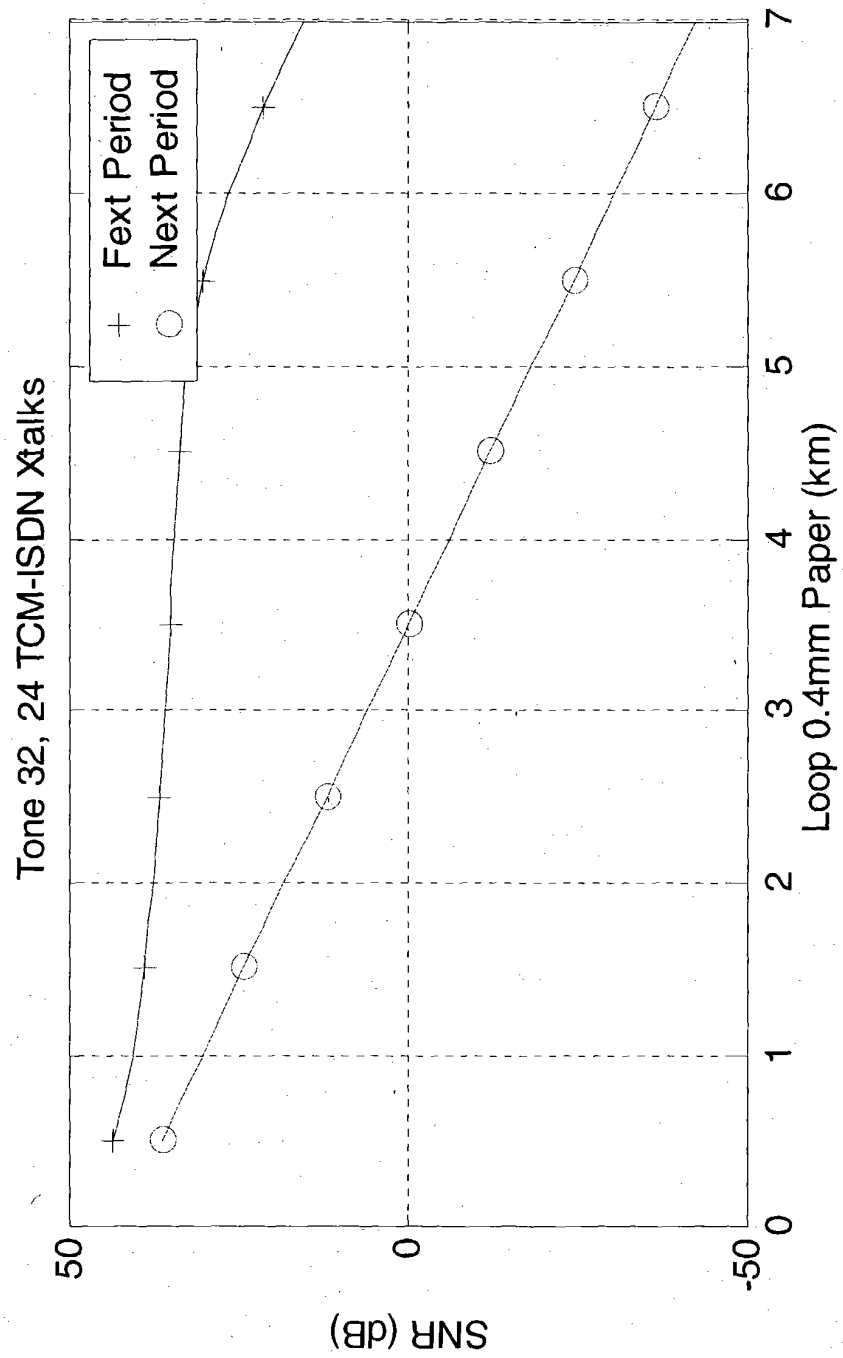
PILOT 32 SNR vs distance, -140dBm/Hz white noise

**Fig. 22**



TTR 24 SNR vs distance, -140dBm/Hz white noise

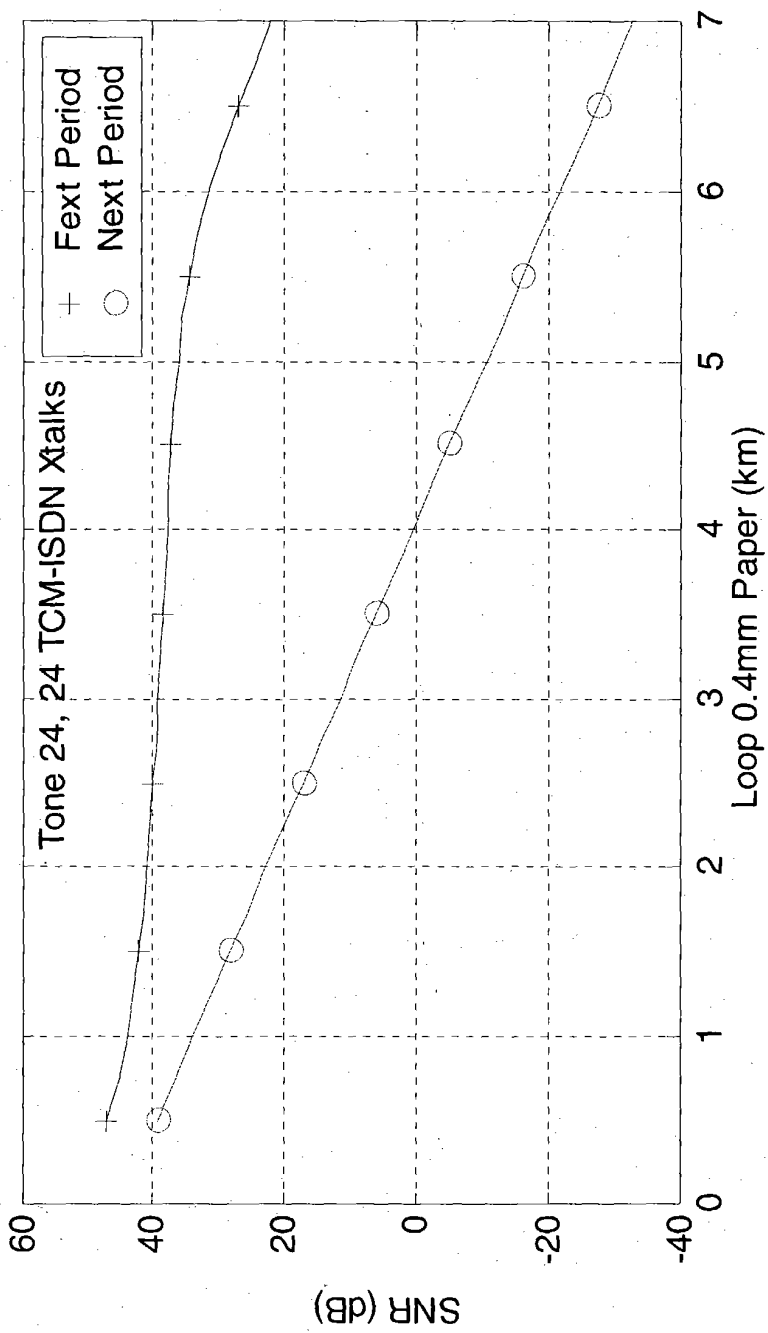
**Fig. 23**



PILOT 32 SNR vs distance, 24 TCM-ISDN

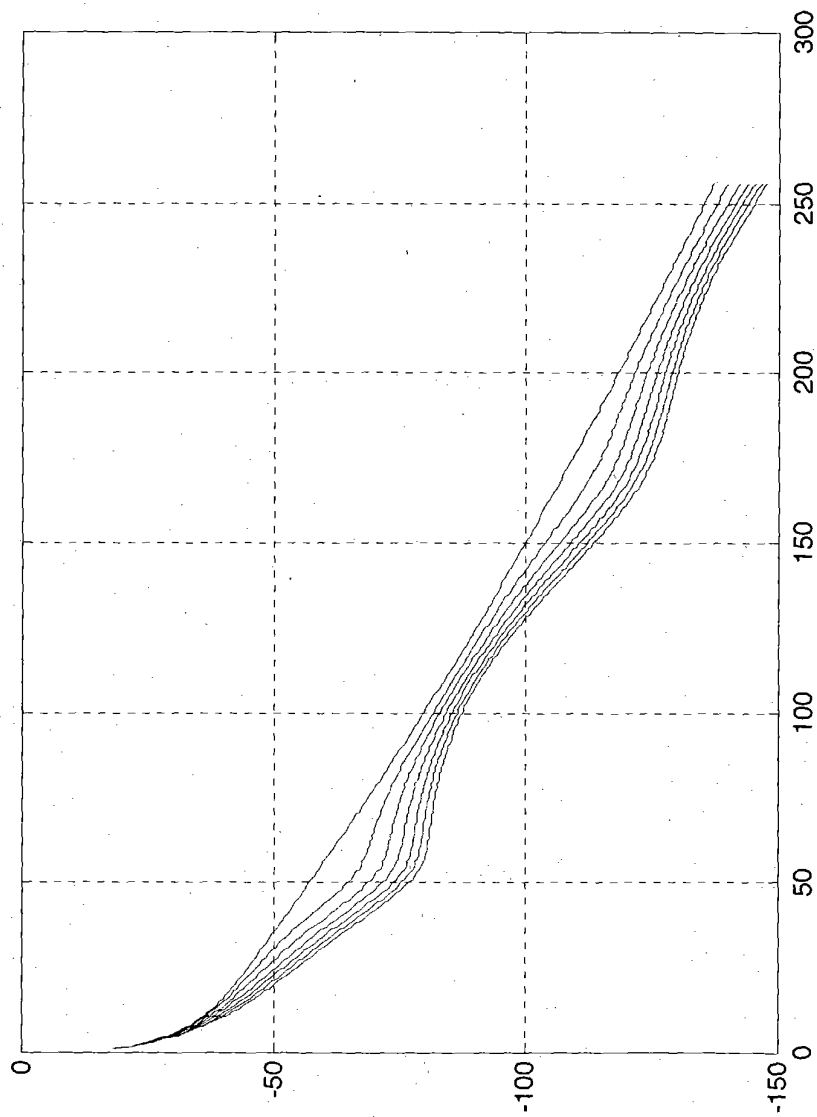
Fig. 24





TTR 24 SNR vs distance, 24 TCM-ISDN

Fig. 25



Testing loops for PILOT 64 and TTR 48 Limitations in FDM Mode

**Fig. 26**